

II. REMARKS/ARGUMENTS

A. General

The Applicants gratefully acknowledge the allowance of claims 61 and 63-69.

The Applicants also gratefully acknowledge the potential allowability of claims 3-7, 16, 19, 27, 39, 40, 43-45, 50-58, 60 and 71.

Incidentally, the information found on page 1 of the Office Action does not appear to match the Examiner's remarks made on page 2 of the Office regarding allowable subject matter. Specifically, on page 2 of the Office Action, the Examiner allowed claims 61 and 63-69, while on page 1 of the Office Action, none of the claims are indicated as being allowed. Furthermore, on page 2 of the Office Action, the Examiner objected to claims "3-7..." and indicated that these claims would be allowable if rewritten in independent form. However, on page 1 of the Office Action, claims "3-9..." are indicated as being objected to. It is noted that the Examiner has not rejected, objected to, or addressed in any way claims 8 and 9 in the Office Action. Clarification on the discrepancies between the information on page 1 of the Office Action and the Examiner's remarks on page 2 of the Office Action is respectfully requested.

On a related note, on page 1 of the Office Action, the drawings filed on July 8, 2004 are indicated as being both "accepted" and "objected to by the Examiner". It is assumed that the drawings are indeed accepted but formal clarification on the part of the Examiner is respectfully requested.

B. Summary of the Amendments

Claims 1-27, 39, 40, 45, 50-61 and 63-71 are currently pending.

Claims 1, 4, 8, 10, 12, 14, 15, 18, 20-24 and 27 have been amended. Support for the amendments made to the claims can be found, *inter alia*, on page 17, lines 5-9; page 36, lines 13-17; and claim 2 of the specification as originally filed.

It is respectfully submitted that no new matter has been added to the present application under the present amendment.

C. Summary of Rejections and Reply

1) Rejection of claims 1, 2, 11-15, 17, 18, 20-26, 59 and 70 under 35 USC 103

On page 3 of the Office Action, the Examiner has rejected claims 1, 2, 11-15, 17, 18, 20-26, 59 and 70 under 35 USC 103(a) as being unpatentable over Fatehi et al. U.S. Patent No. 6,600,581 (hereinafter referred to as "Fatehi").

As described below, the Applicants respectfully submit that claims 1, 2, 11-15, 17, 18, 20-26, 59 and 70 now on record are in condition for allowance.

Independent claim 1

The Examiner's attention is directed to the following features of amended claim 1, portions of which have been emphasized:

1. A system for verifying connections established through a switching unit adapted to receive a plurality of input signals and output a plurality of switched signals, comprising:
 - a selection unit for controllably **admitting** at least one **pair of signals**, each pair of signals being an admitted pair of signals and including one of the input signals and one of the switched signals; and
 - a verification unit connected to the selection unit, for:
 - controlling operation of the selection unit as a function of a connection map; and
 - for a given admitted pair of signals, correlating the one of the input signals of the given **admitted pair of signals** with the one of the switched signals of the given **admitted pair of signals** so as to determine whether one of the connections established through the switching unit is consistent with the connection map.

It is respectfully submitted that Fatehi does not explicitly disclose or implicitly suggest the above-emphasized features of claim 1.

Specifically, Fatehi neither teaches nor suggests a system that:

- (1) admits at least one pair of signals, each pair of signals including an input signal and a switched signal; and
- (2) for a given admitted pair of signals, correlates the input signal of the given admitted pair of signals with the switched signal of the given admitted pair of signals in order to verify the consistency of connections established in a switching unit with a connection map.

Rather, Fatehi describes a system in which a "connection verification message" is tagged (i.e. *added*) onto a signal at a cross-connect input and retrieved at a cross-connect output using tag read/write elements, the retrieved connection verification message being passed to a "controller" to effect connection verifications. It is abundantly clear that the "controller" of Fatehi's system does not admit any pair of signals that would include a signal from a cross-connect input and a signal from a cross-connect output. On this basis, it is apparent that Fatehi fails to teach or suggest the claimed feature of "a selection unit for controllably admitting at least one pair of signals, each pair of signals being an admitted pair of signals and including one of the input signals and one of the switched signals".

If for any reason the Examiner disagrees and continues to maintain an argument of unpatentability, then he is kindly and respectfully urged to identify which features of Fatehi he considers as being the claimed selection unit **and** the claimed admitted pair of signals. The Examiner is also respectfully requested to note that an argument which fails to identify the claimed admitted pair of signals and/or the claimed selection unit for admitting such, cannot support a finding of obviousness, as the third criterion required for establishing a *prima facie* case of obviousness in accordance with MPEP 706.02(j) will not be satisfied¹.

¹ For the Examiner to establish a *prima facie* case of obviousness, three criteria must be considered: (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings, (2) there must be a reasonable expectation of success, and (3) the prior art references must teach or suggest all of the claim limitations. MPEP §§ 706.02(j), 2142 (8th ed.).

In light of the above, it is respectfully submitted that at least one feature of claim 1 as amended is neither taught nor suggested by the cited art. Therefore, the Applicants respectfully submit that at least one criterion required for establishing a *prima facie* case of obviousness in accordance with MPEP 706.02(j) is not satisfied. The Examiner is thus respectfully requested to withdraw his rejection of claim 1 and it is respectfully submitted that claim 1 is in condition for allowance.

Dependent claims 2 and 11-14

Claims 2 and 11-14 depend either directly or indirectly on claim 1 and therefore include all of the features of claim 1. Hence, for the same reasons as those set forth herein above in respect of claim 1, the Applicants respectfully submit that claims 2 and 11-14 are in condition for allowance. The Examiner is therefore respectfully requested to withdraw his rejection of claims 2 and 11-14.

Independent claims 15 and 20-23

The Examiner's attention is directed to the following features of amended claims 15 and 20-23, portions of which have been emphasized:

15. A method of validating connections established through a switching unit adapted to receive a plurality of input signals and output a plurality of switched signals, comprising:
 - causing **admission** of at least one **pair of signals**, each pair of signals being an admitted pair of signals and including one of the input signals and one of the switched signals expected to be correlated with one another on the basis of a connection map;
 - for a given admitted pair of signals, correlating the one of the input signals of the given **admitted pair of signals** with the one of the switched signals of the given **admitted pair of signals** to determine a level of correlation or anti-correlation between the one of the input signals of the given **admitted pair of signals** and the one of the switched signals of the given **admitted pair of signals**; and
 - if the level of correlation is significant or the level of anti-correlation is insignificant, concluding that the connection involving the one of the input signals of the given **admitted pair of signals** is consistent with the connection map.

20. A system for validating connections established through a switching unit adapted to receive a plurality of input signals and output a plurality of switched signals, comprising:
 means for causing **admission** of at least one **pair of signals**, each pair of signals being an admitted pair of signals and including one of the input signals and one of the switched signals expected to be correlated with one another on the basis of a connection map;
 means for, for a given admitted pair of signals, correlating the one of the input signals of the given **admitted pair of signals** with the one of the switched signals of the given **admitted pair of signals** to determine a level of correlation or anti-correlation between the one of the input signals of the given **admitted pair of signals** and the one of the switched signals of the given **admitted pair of signals**; and
 means for concluding that the connection involving the one of the input signals of the given **admitted pair of signals** is consistent with the connection map if the level of correlation is significant or the level of anti-correlation is insignificant.
21. An apparatus for validating connections established through a switching unit adapted to receive a plurality of input signals and output a plurality of switched signals, comprising:
 a mechanism constructed and adapted to **admit** at least one **pair of signals**, each pair of signals being an admitted pair of signals and including one of the input signals and one of the switched signals expected to be correlated with one another on the basis of a connection map;
 a mechanism constructed and adapted to, for a given pair of admitted signals, correlate the one of the input signals of the given **admitted pair of signals** with the one of the switched signals of the given **admitted pair of signals** to determine a level of correlation or anti-correlation between the one of the input signals of the given **admitted pair of signals** and the one of the switched signals of the given **admitted pair of signals**; and
 a mechanism constructed and adapted to conclude that the connection involving the one of the input signals of the given **admitted pair of signals** is consistent with the connection map if the level of correlation is significant or the level of anti-correlation is insignificant.
22. Computer-readable media tangibly embodying a program of instructions executable by a computer to perform a method of validating connections established through a switching unit adapted to receive a plurality of input signals and output a plurality of switched signals, the method comprising:
 causing **admission** of at least one **pair of signals**, each pair of signals being an admitted pair of signals and including one of the input signals and one of the switched signals expected to be correlated with one another on the basis of a connection map;
 for a given admitted pair of signals, correlating the one of the input signals of the given **admitted pair of signals** with the one of the switched signals of the given **admitted pair of signals** to determine a level of correlation or anti-correlation between one of the input signals of the given

admitted pair of signals and the one of the switched signals of the given **admitted pair of signals**; and

if the level of correlation is significant or the level of anti-correlation is insignificant, concluding that the connection involving the one of the input signals of the given **admitted pair of signals** is consistent with the connection map.

23. At least one computer programmed to execute a process for validating connections established through a switching unit adapted to receive a plurality of input signals and output a plurality of switched signals, the process comprising:

causing **admission** of at least one **pair of signals**, each pair of signals being an admitted pair of signals and including one of the input signals and one of the switched signals expected to be correlated with one another on the basis of a connection map;

for a given admitted pair of signals, correlating the one of the input signals of the given **admitted pair of signals** with the one of the switched signals of the given **admitted pair of signals** to determine a level of correlation or anti-correlation between the one of the input signals of the given **admitted pair of signals** and the one of the switched signals of the given **admitted pair of signals**; and

if the level of correlation is significant or the level of anti-correlation is insignificant, concluding that the connection involving one of the input signals of the given **admitted pair of signals** is consistent with the connection map.

The Examiner will appreciate that claims 15 and 20-23 contain similar language. Accordingly, claims 15 and 20-23 will be treated simultaneously.

It is respectfully submitted that Fatehi does not explicitly disclose or implicitly suggest the above-emphasized features of claims 15 and 20-23.

Specifically, Fatehi neither teaches nor suggests a system that:

- (1) admits at least one pair of signals, each pair of signals including an input signal and a switched signal; and
- (2) for a given admitted pair of signals, correlates the input signal of the given admitted pair of signals with the switched signal of the given admitted pair of signals in order to determine a level or correlation or anti-correlation therebetween, the level of correlation or anti-

correlation being used to verify the consistency of connections established in a switching unit with a connection map.

Rather, Fatehi describes a system in which a "connection verification message" is tagged (i.e. *added*) onto a signal at a cross-connect input and retrieved at a cross-connect output using tag read/write elements, the retrieved connection verification message being passed to a "controller" to effect connection verifications. It is ample clear that the "controller" of Fatehi's system does not admit any pair of signals that would include a signal from a cross-connect input and a signal from a cross-connect output. On this basis, it will be apparent that Fatehi fails to teach or suggest a feature present in each one of claims 15 and 20-23, namely the admission of at least one pair of signals, each pair of signals including one of the input signals and one of the switched signals.

If for any reason the Examiner disagrees and continues to maintain an argument of unpatentability, then he is kindly and respectfully urged to identify which features of Fatehi he considers as being the claimed admission of a pair of signals and the claimed admitted pair of signals. The Examiner is also respectfully requested to note that an argument which fails to identify the claimed admitted pair of signals and/or the claimed admission of the pair of signals, cannot support a finding of obviousness as the third criterion required for establishing a *prima facie* case of obviousness in accordance with MPEP 706.02(j) will not be satisfied.

In light of the above, it is respectfully submitted that at least one feature of each one claims 15 and 20-23 now on record is neither taught nor suggested by the cited art. Therefore, the Applicants respectfully submit that at least one criterion required for establishing a *prima facie* case of obviousness in accordance with MPEP 706.02(j) is not satisfied. The Examiner is thus respectfully requested to withdraw his rejection of claims 15 and 20-23 and it is respectfully submitted that claims 15 and 20-23 are in condition for allowance.

Dependent claims 17 and 18

Claims 17 and 18 depend directly on claim 15 and therefore include all of the features of claim 15. Hence, for the same reasons as those set forth herein above in respect of claim 15, the Applicants respectfully submit that claims 17 and 18 are in condition for allowance. The Examiner is therefore respectfully requested to withdraw his rejection of claims 17 and 18.

Independent claim 24

The Examiner's attention is directed to the following features of amended claim 24, portions of which have been emphasized:

24. A switch for optical signals, comprising:
- a switching core for switching a plurality of input optical signals as a function of a connection map and outputting a plurality of switched optical signals; and
 - a connection verification system connected to the switching core, the connection verification system comprising:
 - a selection unit for controllably **admitting** at least one **pair of signals**, each pair of signals being an admitted pair of signals and including one of the input optical signals and one of the switched optical signals; and
 - a verification unit connected to the selection unit, for:
 - controlling operation of the selection unit as a function of the connection map; and
 - for a given admitted pair of signals, correlating the one of the input optical signals of the given **admitted pair of signals** with the one of the switched optical signals of the given **admitted pair of signals** so as to determine whether a connection established through the switching core is consistent with the connection map.

It is respectfully submitted that the features of the connection verification system claimed in claim 24 mirror the features of the system of claim 1.

Accordingly, for the same reasons as those set forth previously in respect of claim 1, it is respectfully submitted that at least one feature of claim 24 now on record is neither taught nor suggested by the cited art. Therefore, the Applicants respectfully

submit that at least one criterion required for establishing a *prima facie* case of obviousness in accordance with MPEP 706.02(j) is not satisfied. The Examiner is thus respectfully requested to withdraw his rejection of claim 24 and it is respectfully submitted that claim 24 is in condition for allowance.

Dependent claims 25, 26, 59 and 70

Claims 25, 26, 59 and 70 depend either directly or indirectly on claim 24 and therefore include all of the features of claim 24. Hence, for the same reasons as those set forth herein above in respect of claim 24, the Applicants respectfully submit that claims 25, 26, 59 and 70 are in condition for allowance. The Examiner is therefore respectfully requested to withdraw his rejection of claims 25, 26, 59 and 70.

2) Rejection of claim 10 under 35 USC 103

On page 5 of the Office Action, the Examiner has rejected claim 10 under 35 USC 103(a) as being unpatentable over Fatehi et al. U.S. Patent No. 6,600,581 (hereinafter referred to as "Fatehi") in view of Kusyk U.S. Patent No. 6,246,668 (hereinafter referred to as "Kusyk"). As set forth herein below, the Applicants respectfully submit that claim 10 is in condition for allowance.

Dependent claim 10

Claim 10 depends directly on claim 1 and therefore includes all of the features of claim 1.

Firstly, as shown previously in respect of claim 1, Fatehi does not explicitly disclose or implicitly suggest the claimed feature of "a selection unit for controllably admitting at least one pair of signals, each pair of signals being an admitted pair of signals and including one of the input signals and one of the switched signals". As also shown in

respect of claim 1, Fatehi fails to teach or suggest correlating the input signal of a given admitted pair of signals with the switched signal of the given admitted pair of signals in order to verify the consistency of connections established in a switching unit with a connection map.

Secondly, it is respectfully submitted that the Examiner has not shown that Kusyk teaches or suggests these same features of claim 1 (and thus of claim 10) that are already shown to be missing from Fatehi.

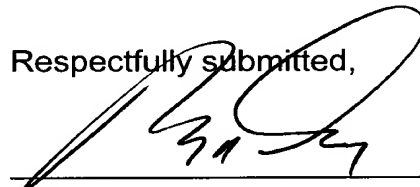
Accordingly, it is respectfully submitted that the Examiner has not shown that the cited art teaches or suggests all of the features of claim 10. Therefore, the Applicants respectfully submit that at least one criterion required for establishing a *prima facie* case of obviousness in accordance with MPEP 706.02(j) is not satisfied. The Examiner is thus respectfully requested to withdraw his rejection of claim 10 and it is respectfully submitted that claim 10 is in condition for allowance.

III. CONCLUSION

In view of the foregoing, the Applicants are of the view that claims 1-27, 39, 40, 45, 50-61 and 63-71 are in condition for allowance. Favorable reconsideration is requested. Early allowance of the application is earnestly solicited.

If the claims of the application are not considered to be in full condition for allowance, for any reason, the Applicants respectfully request the constructive assistance and suggestions of the Examiner in drafting one or more acceptable claims pursuant to MPEP 707.07(j) or in making constructive suggestions pursuant to MPEP 706.03 so that the application can be placed in allowable condition as soon as possible and without the need for further proceedings.

Respectfully submitted,



Ralph A. Dowell
Reg. No. 26,868
Attorney for the Applicants

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DOWELL & DOWELL
2111 Eisenhower Avenue
Suite 406
Alexandria, VA 22314
Tel: (703) 415-2555
Fax: (703) 415-2559